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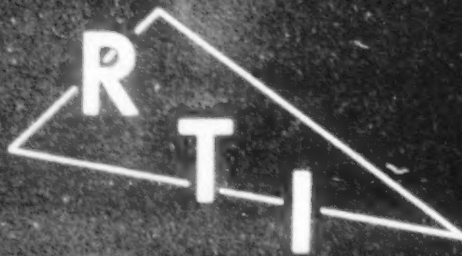
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ABSTRACT

The purpose of this paper is to provide the background and objectives of an evaluation study of Upward Bound (UB), a nationwide program to help selected low income high school students prepare for and enter post secondary education. The primary aim of the study is to evaluate the accomplishment of two of the program's major objectives, to increase the high school retention rate of its participants, and to increase the rate of entry of participants into institutions of post secondary education. Evaluation of a third major objective of the program, that involving generation of skills and motivation necessary for success in education beyond high schools, is approached tangentially as a secondary aim of the study. Also included as a secondary objective is the investigation of a series of questions which would aid in interpreting the results of the primary objectives. Given these objectives, the study focuses on the 333 regular Upward Bound projects operating in the United States during the 1973-74 program years. To obtain a detailed understanding of the program and to devise alternative preliminary designs, several sources are employed. These, along with the three primary sources of data collected, the timing of collection, the primary purposes of data obtained, and the strategy for data analysis, are summarized. This study serves as an introduction to three subsequent papers which focus on methodology, data collection, data processing, analysis, and the results of this evaluation. (Author/AH)



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Background, Objectives, and Design of the National
Study of the Upward Bound Program

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Background, Objectives, and Design of the National
Study of the Upward Bound Program

The Research Triangle Institute (RTI) conducted an evaluation study of the Upward Bound (UB) Program, a nationwide program funded by the Office of Planning, Budgeting, and Evaluation (OPBE), U.S. Office of Education (USOE) to help selected low-income high school students prepare for and enter postsecondary education.^{1/} The purpose of this paper is to provide the background and objectives of the study, along with an overview of its design and planning process through which the design was developed and selected. As such, it serves to introduce the remaining three papers in this discussion session, which collectively focus on the methodology, data collection, data processing, analysis, and results of the UB study.^{2/}

I. BACKGROUND

Under authority of the Economic Opportunity Act of 1964, as amended (42 U.S.C. 2809), the Office of Economic Opportunity (OEO) funded 17 Upward Bound (UB) projects as a pilot program in the summer of 1965. In 1966, UB was authorized as a national program under Title II-A of the Economic Opportunity Act. On July 1, 1969, responsibility for the program was

^{1/} The methodology and results of the evaluation of the Upward Bound Program are reported in: Graham J. Burkheimer, et. al. Evaluation Study of the Upward Bound Program (Volume IV of A Study of the National Upward Bound and Talent Search Programs. Four Volumes). Research Triangle Park, N.C.: Center for Educational Research and Evaluation, Research Triangle Institute, March 1976.

^{2/} The other three papers in AERA Discussion No. D-19 (1976 Annual AERA Meeting, April 19-23, 1976, San Francisco, California) are: Methodological and Design Considerations: National Study of the Upward Bound Program. Helen P. Koo and Graham J. Burkheimer, Research Triangle Institute.

Sample Design and Data Collection Procedures: National Study of the Upward Bound Program. Jane Bergsten, Research Triangle Institute.

Analysis, Major Findings and Implications: National Study of the Upward Bound Program. Graham J. Burkheimer, Jay R. Levinsohn, and Arthur M. French, Research Triangle Institute.

transferred from OEO to the USOE, Department of Health, Education, and Welfare (HEW). Currently, UB is authorized under section 408 of the Higher Education Act of 1965, as amended (20 U.S.C. 1068). During Fiscal Year 1973, there were 416 UB projects operating in the United States and its territories. These projects served 27,900 students at a total cost of \$38.3 million in Federal funds, an average cost of \$1,375 in Federal funds per student.

UB is designed to reach low-income high school students who have potential for successfully completing a postsecondary program but who, due to inadequate preparation or lack of motivation, are prevented from seeking higher education or from meeting conventional criteria for admission to a college, university, or technical institute. Through the use of remedial instruction, exposure to new or innovative curricula, tutoring, cultural exposure, and encouragement, the program is design to generate in such individuals the skills and motivation necessary to enter and successfully pursue postsecondary education. More specifically, the UB program has three major objectives:

- a) To increase the high school retention rates of its participants (or decrease their dropout rates from high school).
- b) To increase the rate of entry of its students into postsecondary institutions.
- c) To generate the skills and motivation necessary for success in education beyond high school.

During the summer, UB students typically reside on a college, university, or secondary school campus for an intensive six- to eight-week session, taking courses, attending cultural and social events, and receiving counseling. In the academic year, they typically receive less intensive attention: they may attend Saturday classes, attend periodic tutorial/ counseling sessions, or participate in occasional cultural enrichment activities. During their junior and senior years, they receive encouragement and guidance in exploring many options for the postsecondary preparation and program best suited to their needs.

Institutions sponsoring UB projects typically are two- or four-year colleges; in some cases, projects are sponsored by secondary schools, non-

profit agencies, or cooperating groups of institutions. The 1968 Higher Education Amendments required projects: to establish cooperation between postsecondary institutions and secondary schools; to provide health services for program participants; to provide each student a stipend of no more than \$30 per month; and to establish a maximum cost-per-student of \$1,800 per year, with the Federal share of expenditures limited to a maximum of 80 percent or \$1,440 per student. The Education Amendments of 1972 removed these requirements except for the ceiling on student stipends, increasing the Federal share of program funding to 100 percent.

The present study was deemed necessary by USOE because of the inadequacies of past studies and of the UB data system for providing a current, comprehensive evaluation of the UB program. Although the USOE maintains a data bank of information about current and former UB participants, from which project-by-project or aggregate statistics can be obtained, this data source was neither intended nor designed to provide data to the extent required for a comprehensive evaluation of the program. Some evaluative studies of UB have been undertaken in the past; however, the majority of such studies have been at the project level. (Many such studies have been discounted as "advocacy studies.")

The UB program was subjected to a rather comprehensive review in 1969 by Greenleigh Associates, Inc., under contract to the Office of Economic Opportunity.^{3/} The Greenleigh study, however, did not meet present needs in that: (a) the evaluation was conducted at an early point in the history of the program, reflecting its operation at that time through the Office of Economic Opportunity (substantial program changes, including transfer to the Division of Student Assistance, USOE, have been subsequently made); (b) it was not possible to observe the long-term effects toward retention of UB alumni in higher education; and (c) certain inadequacies existed in the control groups employed.

^{3/} Greenleigh Associates, Inc. Upward Bound 1965-69: A History And Synthesis of Data on the Program in the Office of Economic Opportunity. New York: Greenleigh Associates, Inc., February 1970.

The Office of Planning, Budgeting, and Evaluation of USOE is responsible for the assessment of USOE programs. The study reported here was commissioned in fulfillment of that charge, because UB had not been comprehensively reviewed since it was transferred in 1969 from the Office of Economic Opportunity to USOE. Also, the Comptroller General of the United States issued in 1974 a study of the program which was generally critical, and which was at variance with what was generally believed to be true of the program's success in enrolling students in postsecondary education, and in their successful performance therein.^{4/} Though severely limited in scope (in both the kinds of data employed and the numbers of projects examined) the study issued by the Comptroller General has nevertheless raised questions as to the relative effectiveness of the UB program. Although the study being reported here was commissioned before the Comptroller General issued his report, the findings of his report were already known to USOE officials. Thus this study was initiated both as part of a continuing responsibility for program review, and in part as a reaction to the Comptroller General's findings. It was intended to sponsor a study of UB that would improve on the data and method that bounded the Comptroller General's study.

On July 1973, the USOE (OPBE) awarded RTI a contract (number OEC-O-73-7052) to plan and conduct an evaluation of the UB program. RTI carried out the planning study during the period of June 1973-January 1974; the actual study was implemented and conducted from February 1974 to March 1976.

II. OBJECTIVES

The primary aim of the RTI study of the program was to evaluate the accomplishment of two of the program's major objectives: (a) to increase the high school (HS) retention rates of its participants, and (b) to increase the rate of entry of its participants into institutions of postsecondary education (PSE). Evaluation of a third major objective of the

^{4/} Comptroller General of the United States. Problems of the Upward Bound Program in Preparing Disadvantaged Students for a Postsecondary Education. Washington, D.C.: U.S. Government Printing Office, March 1974.

program (i.e., the generation of the skills and motivation necessary for success in education beyond high school) was approached tangentially as a secondary aim of the study--primarily because of political and practical problems involved in determining and measuring the nature and degree of such skills and motivation. Also included as a secondary objective was the investigation of a series of questions which would aid in interpreting the results of the primary objectives, or which were of programmatic interest to USOE or both. These other questions, however, took a lower priority, secondary to the goal of providing an accurate evaluation of the program's attainment of two of its three major objectives. The latter set of questions, along with those related to the major objectives can be organized into three general study objectives:

- a) To describe in detail the UB program as it exists at present (this includes a description of the characteristics of staff and students, their perceptions of the program, project operations and costs).
- b) To investigate the effects of UB participation on students (this includes not only rates of high school retention and postsecondary entry, but changes in types of high school academic measures).
- c) To compare the effectiveness of various types of UB projects in producing these effects (projects grouped by such variables as sponsorship, size, and primary project emphasis).

Given these objectives, the study focused on the 333 regular UB projects operating in the coterminous United States during the 1973-74 program year. The 83 projects operating outside coterminous United States and/or classified as special Veterans or demonstration projects were excluded.

III. OVERVIEW OF STUDY DESIGN

A. Design Procedures and Resources

Several sources of information and assistance were consulted in designing the evaluation study. To obtain a detailed understanding of the program and to devise alternative preliminary designs, several sources were employed: the published literature concerning UB; government documents providing the legislation and operating guidelines for UB projects; officials of the USOE

Division of Student Support and Special Programs (DSSSP) and OPBE, USOE; senior program officers in several USOE Regional Offices; and UB project staff and students. In addition, two advisory groups were formed to review the preliminary designs and to help the other steps of the design process: an Advisory Council and a Student Panel.

The Advisory Council aided the research team by contributing its knowledge of UB projects, UB personnel, and educational programs for disadvantaged youths. It was composed of members of the educational community, personnel involved with UB and TS at the project and regional levels, and personnel from DSSSP and OPBE. The full Council met three times during the planning study.

At the first meeting, which took place early in the planning study, the Advisory Council: suggested some changes in a conceptual model of UB processes and outcomes (which was developed by RTI); considered the preliminary study designs; and discussed with the RTI research team the primary objectives of the study and certain practical constraints in implementing any study of UB.

After the first meeting, the RTI research team developed a series of alternative study designs, incorporating the feedback from the Advisory Council. At the second meeting of the Advisory Council, near the end of the planning phase, these refined designs (ranging from a minimal cross-sectional study of high school seniors to a seven year longitudinal study) were examined, and the Council offered their advice regarding their preferred designs. Subsequently, OPBE, in consultation with the RTI team and in consideration of the Council's recommendations, selected (from the list of alternative designs) the design used in the evaluation study. In the final meeting during the planning phase, the Council met to review the questionnaires and other instruments that had been developed by RTI for the study. Prior to this final meeting of the Advisory Council, the student questionnaires and the study design were reviewed by the Student Panel. This panel was composed of former or current UB students or students otherwise involved in UB.

In February 1974, the implementation of the chosen study began. During the conduct of the study, the Advisory Council was kept informed of

progress by monthly newsletters. The Council met for a final time in July 1975 to review the present report and to suggest modifications prior to its submission to USOE.

An additional advisory group was utilized during the implementation phase. This was a committee formed and convened by USOE to review the analysis plans for the present study.

B. General Design

Given certain study constraints and the input from the sources discussed above, the UB evaluation utilized a quasi-experimental design which was basically cross-sectional, though some retrospective and short-range longitudinal data were gathered. To obtain the data necessary to satisfy the study objectives and to obtain results that would contain little bias either for or against the program being evaluated, data were collected from many sources and from a broad spectrum of persons. Samples of UB project staff and UB comparison students were all surveyed by written questionnaires. Data regarding students were also obtained from high school and project records. Finally, because questionnaire responses and data of record can sometimes provide a superficial or misleading picture, site visits were made by the team members to personally observe project operations and interview project personnel.

The three primary sources of the data collected, the timing of collection, and the primary purposes of the data obtained, along with the strategy for analyzing these data, are summarized below to provide an overview of the study design.

1. Student Data

- a) In the spring 1974, a sample of UB students and a sample of comparison students who had been enrolled in school in the tenth, eleventh, and twelfth grades at the beginning of the academic year (fall 1973) were administered questionnaires. One type of questionnaire was administered to students in the schools and projects; another was mailed to students who had dropped out of the schools or projects. The primary purpose of these questionnaires was to determine whether the students were still attending school and to obtain information about their background and other characteristics.

- b) During the same period (spring 1974), course grades and other academic information (from the ninth grade to their present grade level) were obtained for sample students. These data were obtained from school and project records. The purpose of these data was to determine whether course grades and curriculum type changed after participation in UB.
- c) In the fall of 1974, the same sample of students were mailed short questionnaires to determine their school status and grade level. Brief telephone interviews were subsequently conducted to obtain similar information from a sample of those who had failed to return the fall questionnaires.

2. UB Project Staff Data

In the spring 1974, questionnaires were mailed to a sample of the staff members of those projects from which the UB students had been selected. Specifically, questionnaires were directed to the project directors, counselors, and instructors of these projects, for the purpose of obtaining data about the characteristics of the staff members and of their projects.

3. Site Visit Data

In the summer of 1974, 15 of the UB projects in the sample were visited (5 of the 15 were also visited during the academic year, in the spring of 1974). The visits were made to obtain first-hand insight into the academic and summer components of UB projects, as well as to validate some of the responses obtained in the UB staff questionnaires.

4. Data Analysis

In addition to routine analysis of data quality (missing data, out of range data, multiple responses, and inconsistent responses), three major classes of analyses were conducted: (a) student oriented analyses, (b) program oriented analyses, and (c) project by student analyses. Every effort was made in these analyses to avoid misinterpretations from spurious results. Sampling weights were used where feasible in computing the various statistics, to provide unbiased

estimates of population parameters. Weight adjustments were made for both item and instrument nonresponse.

The first class of analyses addressed questions of the effectiveness of the UB program with a primary focus on differences between UB participants and nonparticipants. Although the sample design effectively minimized differences between UB and comparison students on certain output-related factors, a statistical procedure was used to effect an a posteriori equalization of the UB and comparison groups.

The thrust of program oriented analyses was descriptive and either the project, specific project personnel, or subgroups of UB participants served as the units of analysis.

The project by student analyses investigated relationships between a set of variables reflecting project process and sets of student input and output measures. For these analyses, concern shifted from national program effectiveness to an evaluation of differential program operations and the relative value of particular approaches to UB objectives.